

## VEHICLE SAFETY SYSTEM

This application claims the benefit of and priority to U.S. provisional patent application number 60/426,313, filed 14 November 2002.

### BACKGROUND OF THE INVENTION

5           The present invention relates to vehicle safety systems and more specifically to an apparatus for protecting an occupant of a vehicle during abnormal operating conditions.

Various safety systems are used to protect occupants of vehicles. For example, seat belt and airbag systems may be used to protect vehicle occupants. In  
10 the case of a lift truck, one suitable seat belt system, for example, might comprise an automatic locking retractor and a belt buckle assembly as described in commonly owned U.S. Pat. No. 4,832,410 to Bougher, the disclosure of which is now incorporated herein by reference. Lift trucks may also be equipped with a Falling Object Protection System (FOPS), which comprises a sectioned roof resting on side  
15 supports, thereby creating a cab or cockpit in which the occupant is generally protected from falling objects. It has been found that during lift truck tip-over conditions, an occupant may try to exit the cockpit of the vehicle, or may be ejected from the cockpit, prior to completion of the tip over. What is desired is a safety system that blocks the exit pathway and contains the occupant substantially within  
20 the cab of the lift truck or other vehicle.

A vehicle safety system for impeding the egress of an occupant of a vehicle is provided. Such a vehicle safety system comprises one or more safety barriers mounted to one or more exits and configured to move between a stowed position, allowing an occupant to egress the vehicle through the one or more exits,  
25 and a deployed position. In the deployed position, the barrier(s) cover at least a portion of the exit(s) to impede occupant egress through the exit(s). One such safety barrier might be a passive barrier such as a net, or plastic sheet. Such a passive barrier affords the occupant the visibility necessary to operate the vehicle. Therefore, the vehicle may be operated with the passive barrier in the deployed  
30 position continuously. The vehicle may be equipped with a FOPS or other frame that defines the exit(s) in order to mount and/or guide the passive barrier as it is moved between the stowed positions and the deployed positions. The passive

*refers to Bougher*